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Kramer Electronics, Ltd.

USER MANUAL

Model:

RC-IR2

Infrared Remote Control Device

Remote Control Transmitter

Remote Receiver

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1 Introduction

Welcome to Kramer Electronics! Since 1981, Kramer Electronics has been providing a world of unique, creative, and affordable solutions to the vast range of problems that confront the video, audio, presentation, and broadcasting professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better! Our 1,000-plus different models now appear in 11 groups[1] that are clearly defined by function.

Congratulations on purchasing your Kramer **RC-IR2** or *Infrared Remote Control Device*, which is ideal for remote control of Kramer switchers, matrices and scalers.

The package includes the following items:

- **RC-IR2** *Remote Control Transmitter*[2]
- This user manual[3]

Most Kramer switchers include a built-in front panel infrared receiver. When there is no built-in remote receiver, use[4] an external remote receiver[5].

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual

1 GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Matrix Switchers; GROUP 3: Control Systems; GROUP 4: Format/Standards Converters; GROUP 5: Range Extenders and Repeaters; GROUP 6: Specialty AV Products; GROUP 7: Scan Converters and Scalers; GROUP 8: Cables and Connectors; GROUP 9: Room Connectivity; GROUP 10: Accessories and Rack Adapters; GROUP 11: Sierra Products

2 Two AAA size regular batteries are supplied

3 Download up-to-date Kramer user manuals from the Internet at this URL: http://www.kramerelectronics.com

4 For example, when ordering an RC-IR2 remote control transmitter, order an external remote receiver to control Kramer switchers such as the VP-4x4 that has no built-in remote receiver

5 It includes an attached RS-232 cable with a 9-pin D-sub connector, and comes with a 12V DC power adapter

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3 Overview

The high performance Kramer **RC-IR2** is an upgrade of the popular **RC-IR1**, with additional functionality that lets you control Kramer scalers as well as switchers.

The **RC-IR2**:

- Is a hand held infrared remote control transmitter[1] that includes the protocols of all Kramer devices and is programmable to control any Kramer machine (see Figure 1)
- Transmits to a compatible remote receiver, either built-in (see Figure 2) or external (see Figure 3). The transmitter includes non-volatile memory that retains the last setting, even after the power supply is interrupted

To achieve the best performance:

- Point the remote control transmitter directly at the remote receiver (whether built-in or external)
- Make sure that nothing blocks the path of the infrared beam[2]
- Connect only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Avoid interference from neighboring electrical appliances that may adversely influence signal quality and position your Kramer **RC-IR2** away from moisture, excessive sunlight and dust

1 Delivers instantaneous results and has a range of up to 15 meters

2 For example, do not place a group of switchers in front of the remote receiver. This may prevent it from receiving signals from the remote control transmitter

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4 Your RC-IR2 Remote Control Transmitter

Figure 1 and Table 1 define the **RC-IR2** remote control transmitter:

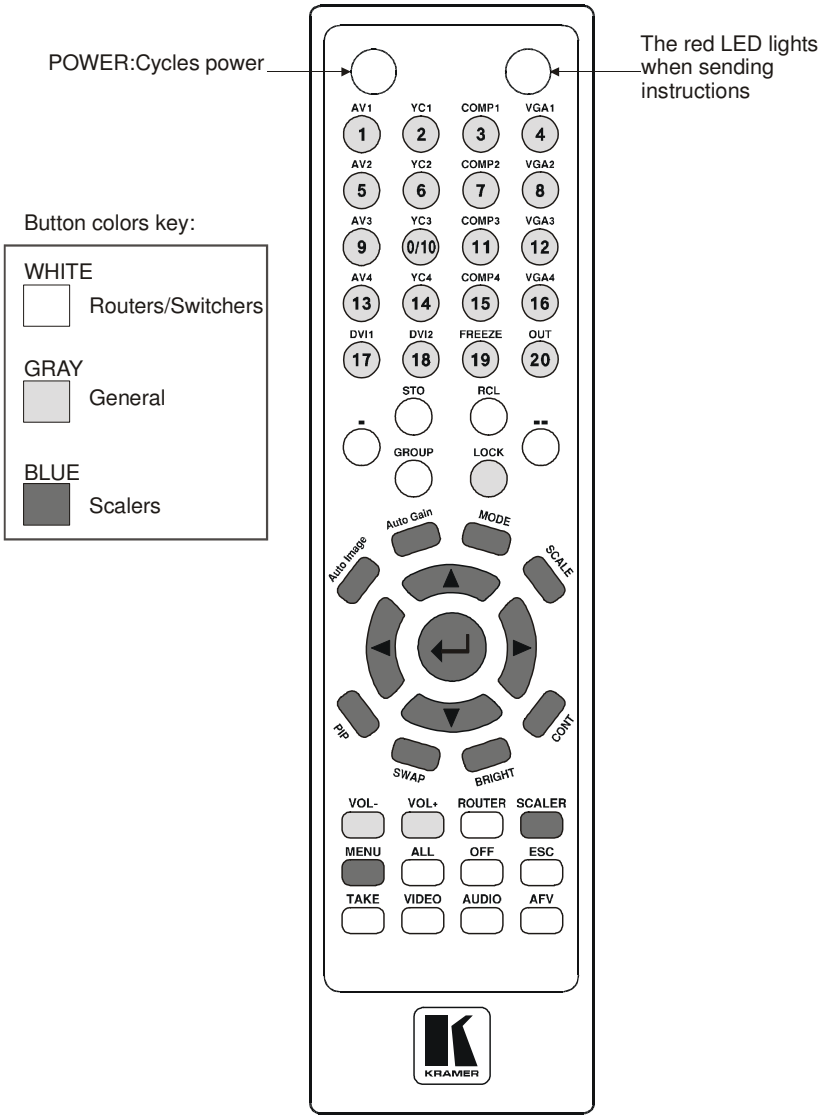

Figure 1: RC-IR2 Remote Control Transmitter

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Table 1: RC-IR2 Remote Control Transmitter Features

Keys			Function
Selector Buttons	**ROUTER Mode**		20 buttons for selecting the channels, the group, the machine number, machine type and so on (see section 7)
	SCALER Mode	**Source Selector**	18 source selector keys: AV1, AV2, AV3, AV4, YC1, YC2, YC3, YC4, COMP1, COMP2, COMP3, COMP4, VGA1, VGA2, VGA3, VGA4, DVI1 and DVI2
		FREEZE	Pauses the output video
		OUT	Selects the output resolution
STO			Stores the current setting
RCL			Recalls the stored data
- Single Digit Mode			Press the - key to select the single digit mode (the 0/10 key is designated as 10)
-- Double Digit Mode			Press the - - key to select the double digit mode (the 0/10 key is designated as 0)
GROUP			Selects the # of a specific group (see section 7.2.2)
LOCK			Locks a unit or all the units
Auto Image			Assesses the image and automatically improves its quality via phase, frequency and position adjustment
Auto Gain			Automatically adjusts the brightness and contrast
MODE			For the **VP-719xl**, **VP-720xl**, **VP-723xl** and **VP-724xl**: Toggle between each of the following modes: Normal, Presentation, Cinema, Nature, User 1 and User 2 For the **VP-725DS** and **VP-725DSA**: Toggle between each of the following groups: video, audio, video and audio, scaler, master, and scaler and master
SCALE			Toggles between each of the following Aspect Ratios: Normal, Wide Screen, Pan & Scan, 4:3 Output, and 16:9 Output
Navigation Control (5 keys)			Allows maneuvering within an OSD screen (all keys); adjusts the zoom position (4 keys); moves the PIP location when the Source Prompt is OFF (4 keys); resizes the PIP when the Source Prompt is ON (2 keys)
PIP			Toggles the picture-in-picture function
SWAP			Toggles between the PIP content and the screen source content
BRIGHT			Displays the brightness status (adjust using the ▲ / ▼ keys)
CONT			Displays the contrast status (adjust using the ▲ / ▼ keys)
VOL-			Decreases the volume[1]. When in the SCALER mode, see section 8.1
VOL+			Increases the volume[1]. When in the SCALER mode, see section 8.1
ROUTER			Enables the switcher functions (keys are colored white)
SCALER			Enables the scaler functions (keys are colored blue)
MENU			Displays the OSD Menu screen and locks/unlocks the front panel
ALL			Pressing ALL before pressing an INPUT key, connects that input to all outputs[2] (ALL= All Outputs)
OFF			Pressing OFF after pressing an OUTPUT key disconnects that output from the input. To disconnect all the outputs, press the ALL key and then the OFF key
ESC			Press ESC to cancel the last key(s) pressed (when the action requires another key)
TAKE			Press TAKE, key-in several actions and then press TAKE once again to simultaneously activate the multiple switches
VIDEO			Affects video (the default)
AUDIO			Affects audio
AFV			Audio-follow-video

1 See section 7.4.1.2 when adjusting the volume for the VP-23N and the VP-23RC

2 For example, press ALL and then Input key # 2 to connect that input to all outputs

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5 Your Remote Receiver

This section includes details of:

- The built-in front panel remote receiver (see section 5.1)
- How to connect the external remote receiver (see section 5.2)

5.1 Identifying the Built-in Infrared Receiver

Most Kramer switchers[1] include a built-in front panel remote receiver that is located to the left of the power switch, as Figure 2 illustrates:

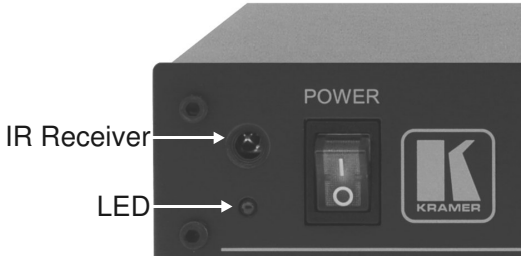

Figure 2: Built-in Remote Receiver

5.2 Connecting the External Infrared Receiver

When your RS-232 controlled Kramer switcher has no built-in front panel remote receiver, you can use the external remote receiver[1] (see Figure 3). The external remote receiver includes an attached RS-232 cable with a 9-pin D-sub connector, and a 12V DC power socket.

Caution – No operator-serviceable parts inside unit.

Warning – Use only the Kramer Electronics input power wall adapter that is provided with this unit[2].

Warning – Disconnect power and unplug unit from wall before installing or removing device or servicing unit.

1 Some switchers do not have a built-in remote receiver. For these units, an external remote receiver may be connected to the switcher. When ordering an RC-IR2 remote control transmitter, a separate order must be made for an external remote receiver

2 For example: model number AD2512C, part number 2535-000251

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To connect the external remote receiver, as the example in Figure 3 illustrates, do the following:

1. Connect the external remote receiver to the RS-232 port on the Kramer switcher, via **one** of the following methods:
   - A direct one-to-one connection, by simply connecting the attached RS-232 cable's 9-pin D-sub connector to the RS-232 9-pin D-sub port on the switcher
   - An extended (up to about 25 meters) one-to-one connection, by connecting a flat cable, or by just connecting PIN # 2 to PIN # 2, PIN # 3 to PIN # 3, and PIN # 5 to PIN # 5 (ground) between the attached RS-232 cable's 9-pin D-sub connector and the RS-232 9-pin D-sub port on the switcher
   - A cross connection (or Null-modem adapter) when required. For the cross connection, connect PIN # 2 to PIN # 3, PIN # 3 to PIN # 2, and PIN # 5 to PIN # 5
2. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity.

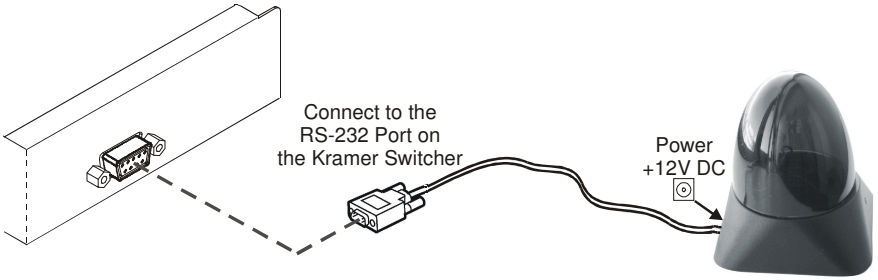

Figure 3: Connecting the External Remote Receiver

When using more than one unit, connect the RS-485 detachable terminal block connectors between the different switchers. The units must belong to the same group and the same series[1] but can be different models[2].

1 For example, vertical interval matrix switchers for composite video and stereo audio signals

2 For example, the VS-808xl and the VS-606xl

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5.3 Using the RC-IR2 Remote Control Transmitter

The **RC-IR2** Remote Control Transmitter includes three types of keys: the General keys[1], the ROUTER[2] keys and the SCALER keys.

The following sections describe how to use the:

- General keys (see section 6)
- ROUTER keys (see section 7)
- SCALER keys (see section 8)

By design, every keypad operation is subject to a 10 second timeout. Failure to fully execute an action within 10 seconds will necessitate restarting that action.

6 The General (Gray) Keys

The **RC-IR2** includes a power ON button, a red transmission LED, which illuminates when pressing any key, as well as:

- Selector buttons, which operate differently for the ROUTER mode and the SCALER mode (see section 7 and section 8 respectively)
- A LOCK button, for locking the front panel, and
- VOL- and VOL+ buttons for decreasing or increasing the volume level respectively[3]

1 Which are applied in the ROUTER mode as well as in the SCALER Mode

2 For controlling switchers

3 For the volume adjustment in scalers, see section 8.1. For the volume adjustment in the VP-23N and VP-23RC, see section 7.4.1.2

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7 The Router Mode Keys

This section describes how to:

- Configure the **RC-IR2** (see section 7.1)
- Initialize the **RC-IR2** (see section 7.2)
- Use the ROUTER Mode keys (see section 7.3)

7.1 Configuration

For the **RC-IR2** to identify the switcher that it has to control, a ROUTER number (see section 7.2.1) and a GROUP number[1] (see section 7.2.2) need to be assigned for specific identification of each switcher.

Older Kramer products were arranged in several groups according to several criteria, such as the protocol type and version, the baud rate, the number of units that can be controlled per group and so on, as defined in Table 3, which applies to older Kramer machines.

Table 3 defines 16 different groups, numbered 1, 2, 3, 4, 5, 6, 7, 9, 10, 12, 14, 15, 16, 17, 18, and 20 (there are no groups numbered 8, 13, or 19). Groups numbered 1, 2, 3, 4, 14, 15 and 16 include units with only a single output. In some cases, you will need to allocate different versions of the same unit to different groups. For example, the **VS-4x4YC** vertical interval matrix switcher appears in Groups 5 and 12. Group 5 works with the old protocol (at the time that the **VS-4x4YC** was initially manufactured) and Group 12 works with the new protocol[2].

Newer Kramer products are allocated to either group 12 (communication protocol 2000) or group 11 (if they have one output only[3]).

1 In cases where the machine does not have a built-in IR receiver it still has to be allocated to a group and can be controlled via the external IR receiver (see section 5.2)

2 Kramer Protocol-2000 (version 3.1 or higher)

3 The group 11 machines are protocol 2000 switchers that have only one output, so that the output is preset to 1 and you only have to press the input number digit on the selector buttons

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7.2 Initializing the RC-IR2

Table 2 describes the initializing sequence:

Table 2: RC-IR2 Initializing Sequence

Press	To	IR LED Behavior on the Switcher Front Panel	See Section
<->	Select single digit	ON and then OFF	7.3.1
ROUTER	Select the machine number	ON	7.2.1
1 or other	Set the machine number	OFF	
Group	Select the Group number	ON	7.2.2
12 or 11 (if the switcher has one output only[1]) or other for old protocols	Set the Group number	OFF	
AFV/VIDEO/AUDIO	Select AFV to control both video and audio Select VIDEO to control only video Select AUDIO to control only audio	Briefly blinks	
<- ->	If the controlled switcher has more than 20 inputs/outputs select double digit	ON and then OFF	7.3.1

7.2.1 Assigning the ROUTER Number

To assign the switcher's machine number to the **RC-IR2**, do the following:

1. Point the remote control transmitter at the remote receiver and press the ROUTER key.
2. Press the digit corresponding to the machine number[2].
   This sets and saves the ROUTER number on the **RC-IR2**.

The assigned machine number must always be identical to the setting on the machine

7.2.2 Assigning the GROUP Number

After assigning the ROUTER number, you have to assign the GROUP number

To assign the GROUP number to a unit, do the following:

1. Point the remote control transmitter at the remote receiver and press the GROUP key.
2. Press the digit corresponding to the number of the Group[3].
   This sets and saves the group number.

1 The group 11 machines are protocol 2000 switchers that have only one output, so that the output is preset to 1 and you only have to press the input number digit on the selector buttons

2 The machine number set up on the unit (for example, via the DIP-switches)

3 According to the specifications in Table 3

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Table 2 defines the allocation of machines to groups, and Table 4 defines the group criteria:

Table 3: Group Definition Specifications for Older Machines

Group 1	Products
	SD-7308; VP-61xl/N; 2031n; VS-401, VS-601, VS-801; VS-401N, VS-601N, VS-801N
Group 2	**Products**
	VS-402, VS-602, VS-802, VS-1202 (BUS A)
Group 3	**Products**
	VS-402, VS-602, VS-802, VS-1202 (BUS B)
Group 4	**Products**
	2081; VS-2481, 2016; VS-2053
Group 5[1]	**Products**
	VS-4x4YC
Group 6[1]	**Products**
	VS-5x4
Group 7	**Products**
	2088; 2288
Group 9	**Products**
	2066; 2466
Group 10[1]	**Products**
	2516; 2216, 2616
Group 12[2]	**Products**
	2516, 2216, 2616; VP-24; VP-4x4, VS-4x4YC; VS-5x4; VP-813; VS-812; VS-804xl; VS-848; VS-12114; VS-1616; VS-162; VS-4228; VS-1604; SD-7316; SD-7388; VP-88, VP-84, VP-82, VP-66, VP-64; VS-1602xl, VS-1202xl, VS-1002xl; VS-804YC, VS-806YC, VS-808xl; VS-606xl, VS-646; VS-402, VS-602; VS-401xlm, VS-601xlm, VS-801xlm, VS-1001xl, VS-1201xl; VS-411, VS-611, VS-811, VS-1011, VS-1211; SD-7588A, SD-7588V, VS-88A, VS-88V, VP-108, VP-23xl, VP-25xl, VP-1608
Group 14	**Products**
	VS-120
Group 15[1]	**Products**
	VS-401xl, VS-601xl, VS-801xl, VS-1001xl, VS-1201xl; VS-411, VS-611, VS-811, VS-1011, VS-1211
Group 16	**Products**
	VS-2042
Group 17	**Products**
	VP-23; VP-25
Group 18	**Products**
	VS-606, VS-808
Group 20	**Products**
	VS-1616A, VS-1616V, VS-1616AD, VS-162V, VS-1616SDI, VS-162AV; VP-81N, VP-161, VP-321; VS-1002, VS-1202; VS-1602, VS-1604, VS-1604YC

1 Old protocol

2 New Kramer Protocol-2000 (version 3.1)

3 Use a cross connection (or Null-modem adapter), as section 5.2 of the user manual: IR-1 and IR-1-01 describes

4 When operating the VS-1211 unit, in group 12 (but not group 15), press the (input) # key twice

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Table 2 is valid as per January 2004. Newer machines (using Protocol 2000) may be programmed for Group 12 or 11.

Table 4: Group Definition Criteria for Older Machines

Group	Speed[1]
1, 2, and 3	1200
4, 5, 6, 7, 9, 10 12, 14, 15, 16, 17, 18 and 20	9600

Group	Maximum # of Units per Group
Groups 7[2], 9 and 10	**1**
Groups 1, 2, 3, 5, 6, 15, 17, and 18	**8**
Groups 4, 12, 14, and 16	**16**

7.3 Using the RC-IR2 keys in the ROUTER Mode

The following sections describe how to:

- Use the <-> and <--> keys for selecting the single or the double digit modes (see section 7.3.1)
- Switch an input to an output (see section 7.3.2)
- Use the STO and RCL keys for storing and recalling switcher settings (see section 7.3.3)
- Use the TAKE key (see section 7.3.4)
- Use the VIDEO AUDIO and AFV keys (see section 7.3.5)

7.3.1 The <0/10> Selector Key

The <0/10> key represents either 0 or 10 depending on the digit mode:

- When the single-digit mode is selected, by pressing the <-> key, the selector button <0/10> represents 10 (in the sequence from 1 to 20)
- When the double-digit mode is selected, by pressing the <--> key, the selector button <0/10> represents 0 (in a sequence from 01 to 99)

For example, to select 5 in the single-digit mode, press <5> and when in the double-digit mode, press <0/10> and <5>.

1 Baud (with no parity, 8 data bits and 1 stop bit)

2 One video unit and one audio unit

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7.3.2 Switching an Input to an Output

To switch an input to an output after assigning the machine number and group number, do the following:

1. Press a Selector key number for the output[1].
2. Press a Selector key number for the input.

For example, to switch INPUT 3 to OUTPUT 5 on a switcher, press <5> and then <3> (in the single digit mode).

In the double-digit mode, press the <--> key and then <0/10>, <5> and <0/10>, <3>.

7.3.3 The STO and RCL Keys

You can store and recall input/output configurations[2] using the selector keys.

7.3.3.1 Storing an Input/Output Configuration

To store the current status in memory, do the following:

1. Press the STO key.
2. Press one of the Selector keys (this will be the setup # in which the current status is stored).
   The memory stores the data at that reference.

7.3.3.2 Recalling an Input/Output Configuration

To recall an input/output configuration, do the following:

1. Press the RCL key.
2. Press the appropriate Selector key (the key # corresponding to the setup #).
   The memory recalls the stored data from that reference.

1 When switching units categorized in group 11 and in groups 1, 2, 3, 4, 14, 15 and 16, ignore step 1 which is inapplicable to units with just one output

2 Check the switcher's user manual to determine the number of configurations you can store. For example for the VP-66ETH, you can store up to six configurations

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7.3.4 The TAKE Key

You can use the TAKE key to key-in several actions and then confirm them by pressing the TAKE key, to simultaneously activate the multiple switches.

Otherwise:

- OUT-IN combinations can be executed one at a time
- Pressing an OUT-IN combination implements the switch immediately
- No protection is offered to allow the correction of an erroneous action before it is implemented

The TAKE key on **RC-IR2** can be used regardless of the state of the TAKE button on the switcher.

7.3.4.1 Confirming a Switching Action

To confirm an action, using the TAKE key, point the remote control transmitter at the remote receiver and do the following:

1. Press the TAKE key
2. Press one or more OUT-IN combinations in sequence.
3. Press the TAKE key to confirm and implement the action.

7.3.5 The VIDEO, AUDIO and AFV Keys

You can switch stereo audio signals in one of two ways, either:

- Audio-follow-video (AFV), in which all operations relate to both the video and the audio channels; or
- Breakaway, in which video and audio channels switch independently

7.3.5.1 Setting the Audio-Follow-Video Option

To set the Audio-follow-video (AFV) option, press the AFV key:

- If the AUDIO and VIDEO configurations are the same, then the AFV button illuminates. The audio will follow the video
- If the AUDIO differs from the VIDEO, then Press the TAKE button to confirm the modification. The audio will follow the video

7.3.5.2 Setting the Breakaway Option

To set the Breakaway option:

- Press the VIDEO (for video control only) key. The VIDEO button on the machine illuminates, and switching operations relate to Video
- Press the AUDIO (for audio control only) key. The AUDIO button on the machine illuminates, following audio switching operations

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7.4 Controlling a Presentation Switcher

This section describes how to control Presentation Switchers using the **RC-IR2**. To control the:

- **VP-23N** and the **VP-23RC**, see section 7.4.1
- **VP-26**, see section 7.4.2

7.4.1 Controlling the VP-23N[1] via the RC-IR2

You can control the **VP-23N** *Presentation Switcher* using the **RC-IR2** to do the following:

- Switch inputs to outputs (see section 7.4.1.1)
- Adjust the volume (see section 7.4.1.2)

7.4.1.1 Switching an Input to an Output

The **VP-23N** *Presentation Switcher* includes three independent switchers and one Master audio switcher. Each independent switcher has one output and the remote controller defines each group as illustrated in Figure 4.

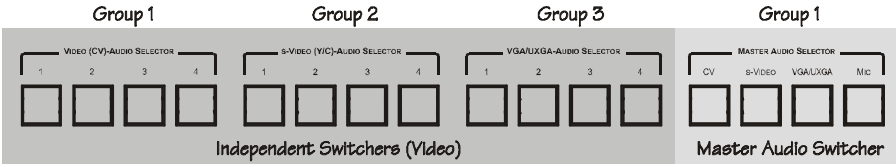

Figure 4: VP-23N Switcher Selector Buttons

The independent switchers are defined in groups, as described in Table 5. The Master Audio is defined as Group 1.

Table 5: Groups Definitions for the VP-23N / VP-23RC

The Switcher Group	Is defined as:
Video (CV)	1
s-Video (Y/C)	2
VGA/UXGA	3

1 Also applies to the VP-23RC

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To switch an input to an output, point the remote control transmitter at the remote receiver and do the following:

1. Press the VIDEO key.
2. Press the group number[1] and then press any key from <1> to <4> to switch an input to the output.

For example, to switch input 3 in the s-Video group to the output:

- Press the VIDEO key
- Press 2
- Press 3

To switch the master audio switcher, point the remote control transmitter at the remote receiver and do the following:

1. Press the AUDIO key.
2. Press <1> and then press any key from <1> to <4> to switch an input to the Master Audio Output.

7.4.1.2 Adjusting the Volume of the VP-23N

You can increase and/or decrease the volume[2] of the **VP-23N** using the **RC-IR2** remote control transmitter.

Increasing the Volume of the VP-23N

The volume level on the **VP-23N** *Presentation Switcher* can be adjusted separately for the audio output of each individual switcher, as well as for the microphone input and the Master audio output.

To increase the volume, point the remote control transmitter at the remote receiver and do the following:

1. Press the VOL+ key.
2. Press the numeral key defining the audio signal[3] continuously until the volume increase is satisfactory.

1 From 1 to 3 according to Table 5

2 The volume adjustment procedure is slightly different for presentation switchers, for example, the VP-23N or the VP23RC

3 See Table 6. For example, to adjust the microphone audio level, press the <4> key

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Table 6: Audio Output Type Key for the VP-23N/VP-23RC

Press key:	To adjust the audio level of the:
1	CV group
2	s-Video group
3	VGA group
4	Microphone
5	Master audio out

Decreasing the Volume of the VP-23N

To increase the volume, point the remote control transmitter at the remote receiver and do the following:

1. Press the VOL- key.
2. Press the numeral key defining the audio signal[3] continuously until the volume decrease is satisfactory.

7.4.2 Controlling the VP-26 via the RC-IR2

You can control the **VP-26** *Presentation Switcher* using the **RC-IR2** to do the following:

- Switch inputs to outputs (see section 7.4.2.1)
- Adjust the volume (see section 7.4.2.2)

7.4.2.1 Switching an Input to an Output

The **VP-26** *Presentation Switcher* includes four independent switchers and one Master audio switcher. Each independent switcher has two outputs and the remote controller defines the groups as illustrated in Table 7.

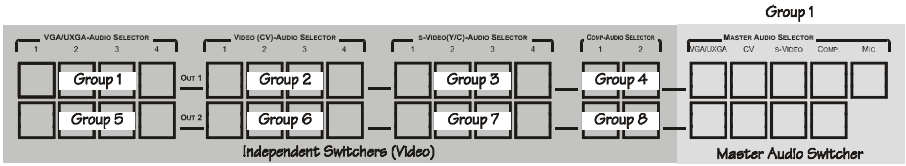

Figure 5: VP-26 Switcher Selector Buttons

The independent switchers are defined in groups, as described in Table 7. The Master audio is defined as Group 1.

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Table 7: Groups Definitions for the VP-26

The Switcher Group	Is defined as:
VGA/UXGA 1	1
Video (CV) 1	2
s-Video (Y/C) 1	3
Comp 1	4
VGA/UXGA 2	5
Video (CV) 2	6
s-Video (Y/C) 2	7
Comp 2	8

To switch an input to an output, point the remote control transmitter at the remote receiver and do the following:

1. Press the VIDEO key.
2. Press the group number[1] and then press any key from <1> to <4>[2] to switch an input to the output.

For example, to switch input 3 in the s-Video group to OUTPUT 2:

- Press the VIDEO key
- Press 7
- Press 3

To switch the master audio switcher, point the remote control transmitter at the remote receiver and do the following:

1. Press the AUDIO key.
2. Press <1> and then press any key (according to the audio output type key in Table 8) to switch an input to the Master Audio Output.

7.4.2.2 Adjusting the Volume of the VP-26

You can increase and/or decrease the volume[3] of the **VP-26** using the **RC-IR2** remote control transmitter.

Increasing the Volume of the VP-26

The volume level on the **VP-26** *Presentation Switcher* can be adjusted separately for the audio output of each individual switcher, as well as for the microphone input and the Master audio output.

1 From 1 to 8 according to Table 5

2 Or from 1 to 2 for the component video groups

3 The volume adjustment procedure is slightly different for presentation switchers, for example, the VP-23N or the VP23-RC

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To increase the volume, point the remote control transmitter at the remote receiver and do the following:

1. Press the VOL+ key.
2. Press the numeral key defining the audio signal[1] continuously until the volume increase is satisfactory.

Table 8: Audio Output Type Key for VP-26

Press key:	To adjust the audio level of the:
1	VGA/UXGA 1 group
2	Video (CV) 1 group
3	s-Video (Y/C) 1 group
4	Comp 1 group
5	VGA/UXGA 2 group
6	Video (CV) 2 group
7	s-Video (Y/C) 2 group
8	Comp 2 group
9	Master audio out
10	Microphone

Decreasing the Volume of the VP-26

To increase the volume, point the remote control transmitter at the remote receiver and do the following:

1. Press the VOL- key.
2. Press the numeral key defining the audio signal[3] continuously until the volume decrease is satisfactory.

7.5 Controlling an Expanded Series 16x16 Matrix Switcher

You can control an expanded series 16x16 matrix switcher, using the **RC-IR2**. For example, when using two **VS-1616V** units to form a 32x16 switcher[2], set both **VS-1616V** units as MACHINE # 1[3]. Using the setup commands, on the first **VS-1616V** unit, set the IR REMOTE control to ON, and on the second **VS-1616V** unit, set the IR REMOTE control to OFF[4].

When a switcher has no built-in front panel remote receiver, for example, when using 3 **VS-1604** units, set each **VS-1604** unit as MACHINE # 1 and connect an external remote receiver to the first **VS-1604** unit only.

1 See Table 8. For example, to adjust the microphone audio level, press the <10> key

2 See the VS-1616V user manual, section 6.3.1 on page 12

3 As Figure 9 illustrates on page 13 of the VS-1616V user manual

4 See the VS-1616V user manual, section 8.10 on page 51

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8 Operating in the Scaler Mode

The **RC-IR2** includes the main[1] SCALER functions; other functions can only be accessed via the OSD menu keys.

To recognize a Kramer machine when operating in the Scaler Mode, using the **RC-IR2**, point the remote control transmitter at the remote receiver and do the following:

1. Press the SCALER key.
2. Press the appropriate # key (from 1 to 5), according to the following:
   - For **VP-720xl**, press 1
   - For **VP-719xl**, press 2
   - For **VP-723xl**, press 3
   - For **VP-724xl**, press 4
   - For **VP-725DS** and **VP-725DSA**, press 5

   The LED lights once.
   The **RC-IR2** is set to Scaler Mode and operates the appropriate machine.

Once the scaler model is selected (using the numeric keys from 1 to 5), you can use the selector buttons from 1 to 18 to select the source.

8.1 The Volume keys in the SCALER Mode

Use the VOL+ and VOL- keys to increase or decrease the volume. For the **VP-725DS** and **VP-725DSA**, the VOL+ and VOL- keys are used to adjust the MASTER AUDIO OUTPUT. You can adjust the volume of the other groups via the OSD menu.

9 Technical Specifications

Table 9 lists the technical specifications:

Table 9: Technical Specifications[2] of the RC-IR2

	Remote Control Transmitter RC-IR2	External Remote Receiver
Dimensions:	4.5 cm (W) x 2.2 cm (D) x 17.6 cm (H)	8.5 cm (W) x 8.5 cm (D) x 9.5 cm (H)
Power Source:	2 AAA size regular 1.5V alkaline batteries Remote current: 10mA maximum	Power adapter (12V DC Input) 28 mA maximum
Accessories:	Batteries	Attached RS-232 Cable and connector Power adapter

1 The functions of the SCALER keys are detailed in Table 1

2 Specifications are subject to change without notice

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LIMITED WARRANTY

Kramer Electronics (hereafter *Kramer*) warrants this product free from defects in material and workmanship under the following terms.

HOW LONG IS THE WARRANTY

Labor and parts are warranted for seven years from the date of the first customer purchase.

WHO IS PROTECTED?

Only the first purchase customer may enforce this warranty.

WHAT IS COVERED AND WHAT IS NOT COVERED

Except as below, this warranty covers all defects in material or workmanship in this product. The following are not covered by the warranty:

1. Any product which is not distributed by Kramer, or which is not purchased from an authorized Kramer dealer. If you are uncertain as to whether a dealer is authorized, please contact Kramer at one of the agents listed in the Web site www.kramerelectronics.com.
2. Any product, on which the serial number has been defaced, modified or removed, or on which the WARRANTY VOID IF TAMPERED sticker has been torn, reattached, removed or otherwise interfered with.
3. Damage, deterioration or malfunction resulting from:
   i) Accident, misuse, abuse, neglect, fire, water, lightning or other acts of nature
   ii) Product modification, or failure to follow instructions supplied with the product
   iii) Repair or attempted repair by anyone not authorized by Kramer
   iv) Any shipment of the product (claims must be presented to the carrier)
   v) Removal or installation of the product
   vi) Any other cause, which does not relate to a product defect
   vii) Cartons, equipment enclosures, cables or accessories used in conjunction with the product

WHAT WE WILL PAY FOR AND WHAT WE WILL NOT PAY FOR

We will pay labor and material expenses for covered items. We will not pay for the following:

1. Removal or installations charges.
2. Costs of initial technical adjustments (set-up), including adjustment of user controls or programming. These costs are the responsibility of the Kramer dealer from whom the product was purchased.
3. Shipping charges.

HOW YOU CAN GET WARRANTY SERVICE

1. To obtain service on you product, you must take or ship it prepaid to any authorized Kramer service center.
2. Whenever warranty service is required, the original dated invoice (or a copy) must be presented as proof of warranty coverage, and should be included in any shipment of the product. Please also include in any mailing a contact name, company, address, and a description of the problem(s).
3. For the name of the nearest Kramer authorized service center, consult your authorized dealer.

LIMITATION OF IMPLIED WARRANTIES

All implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to the length of this warranty.

EXCLUSION OF DAMAGES

The liability of Kramer for any effective products is limited to the repair or replacement of the product at our option. Kramer shall not be liable for:

1. Damage to other property caused by defects in this product, damages based upon inconvenience, loss of use of the product, loss of time, commercial loss; or:
2. Any other damages, whether incidental, consequential or otherwise. Some countries may not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from place to place.

NOTE: All products returned to Kramer for service must have prior approval. This may be obtained from your dealer.

This equipment has been tested to determine compliance with the requirements of:

EN-50081:	"Electromagnetic compatibility (EMC); generic emission standard. Part 1: Residential, commercial and light industry"
EN-50082:	"Electromagnetic compatibility (EMC) generic immunity standard. Part 1: Residential, commercial and light industry environment".
CFR-47:	FCC* Rules and Regulations: Part 15: "Radio frequency devices Subpart B Unintentional radiators"

CAUTION!

- Servicing the machines can only be done by an authorized Kramer technician. Any user who makes changes or modifications to the unit without the expressed approval of the manufacturer will void user authority to operate the equipment.
- Use the supplied DC power supply to feed power to the machine.
- Please use recommended interconnection cables to connect the machine to other components.

* FCC and CE approved using STP cable (for twisted pair products)

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For the latest information on our products and a list of Kramer distributors, visit our Web site: www.kramerelectronics.com, where updates to this user manual may be found.
We welcome your questions, comments and feedback.

Safety Warning:
Disconnect the unit from the power supply before opening/servicing.

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P/N: 2900-300253 Rev 4

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